

**XVI RBMP, Seville 14th-16th September 2022**

**ANALYSIS OF A PUTATIVE AUTOPHAGY REGULATOR DURING STRAWBERRY  
FRUIT RIPENING**

Raúl Peralta-García<sup>1</sup>, Elena Montero-Solís<sup>1</sup>, Victoriano Valpuesta<sup>1</sup>, Victoria Sánchez-Vera<sup>1</sup>

<sup>1</sup> *Departamento de Biología Molecular y Bioquímica, Instituto de Hortofruticultura Subtropical y Mediterránea (IHSM), Universidad de Málaga-Consejo Superior de Investigaciones Científicas, Málaga, Spain..*

Corresponding author: Victoria Sánchez-Vera (victoriasv@uma.es)

Autophagy is a major catabolic pathway essential for cell homeostasis and conserved in almost all eukaryotes. During autophagy, cytoplasmic components are engulfed by a double membrane vesicle called autophagosome and transported to the vacuole where its content is degraded by lytic enzymes (Marshall and Vierstra, 2018). Autophagy is important in many developmental processes and in response to both biotic and abiotic stresses (Lv, 2014). Recently, we have determined that autophagy is active during strawberry fruit ripening and that it has an essential role for the proper progression of this developmental process (Sánchez-Sevilla, 2021). In this work we have focused on the study of the role of a transcription factor as putative regulator of autophagy during strawberry ripening. We have analyzed its expression during strawberry ripening, identified putative binding sites in different *FxaATG* genes and analyzed the interaction between this transcription factor with three different autophagy related genes by a luciferase assay performed in *Nicotiana benthamiana* leaves.

**References:**

Marshall R. and Vierstra, R. *Annual Review of Plant Biology*, 2018, 69:173-208.

Lv X, Pu X, Qin G, Zhu T and Lin H. *Apoptosis* 2014; 19:905–21

Sánchez-Sevilla JF, Botella MA, Valpuesta V and Sanchez-Vera V. *Frontiers in Plant Sciences*, 2021, 12:688481.

**Acknowledgements & Funding:** This work was supported by a Marie Skłodowska-Curie Individual Fellowship (FrATGaria-GA-844365) and by a Joven Investigador (JIN) project of the Agencia Estatal de Investigación of the Ministerio Ciencia e Innovación (PID2020-120227RJ-I00) both granted to VS-V.